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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------|------------------|
| 10/708,807   | 03/26/2004  | Christopher A. Tokarz | 018300-001349       | 2806             |
| 24239  | 7590        | 05/08/2007            | EXAMINER            |                  |
| MOORE & VAN ALLEN PLLC<br>P.O. BOX 13706<br>Research Triangle Park, NC 27709 |             |                       | YEE, DEBORAH        |                  |
|  |             | ART UNIT              | PAPER NUMBER        |                  |
|  |             | 1742                  |                     |                  |
|  |             | MAIL DATE             | DELIVERY MODE       |                  |
|  |             | 05/08/2007            | PAPER               |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                                |                         |
|------------------------------|--------------------------------|-------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b>         | <b>Applicant(s)</b>     |
|                              | 10/708,807                     | TOKARZ ET AL.           |
|                              | <b>Examiner</b><br>Deborah Yee | <b>Art Unit</b><br>1742 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 February 2007.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-54 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 3-26-04 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 to 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hensger et al (US Patent 6,030,470) in view of Hensger et al (US Patent 6,231,696).

3. Similar to the present invention, Hensger'470 in claims 1 to 6 in columns 4-6 discloses a thermomechanical process for hot rolling high-strength low-alloy steel made by compact strip production into a thin slab, the process comprising the steps of providing a molten steel with an added microalloying element, continuously casting molten steel, thermally equilibrating the thin slab to a temperature suitable for hot rolling in the full recrystallization region of austenite in the steel, and hot deforming the thin slab with at least one roll stand in the full recrystallization region of austenite in the steel followed by hot deforming the thin slab at least at one roll stand in the region below the recrystallization stop temperature of the austenite in the steel . The prior art process produces a refine and homogeneous ferritic/pearlitic microstructure, and hence would meet the claimed " substantially homogeneous ferritic microstructure" since the term "substantially" would open claim to phases other than ferrite.

4. More specifically, see Figure in Hensger'470 wherein the thermomechanical process comprises the steps of deforming the thin slab at the first, second, third and

fourth roll stands in the recrystallization region and at the fifth, sixth and seventh roll stands in the non-recrystallization region. Also similar to present invention, Hensger'470 on lines 5 to 13 in column 3 and in the figure teach omitting deformation at roll stands 5 and 7 in order to provide a sufficient time to ensure recrystallization to be complete. In regard to interpass time limitation recited by one or more claims, see paragraph 16 below.

5. Even though prior art does not teach deforming thin slab at first and second roll stands at least -0.78 (54%) and at least -0.65 (48%) at the second roll stand as recited by claim 4, such would be not be a patentable difference since applicants have not demonstrated (e.g. by comparative test data) that claimed reduction strain ranges are somehow critical and productive of new and unexpected results. Note applicants' original claims recited a true reduction strain of 0.60 (less than 48%) as permissible for rolling at both the recrystallization and non-recrystallization temperature ranges.

6. Also prior art figure teaches rolling in the recrystallization temperature at 50% and then 40%, which has a cumulative reduction of 90% (-1.2) and would closely approximate the present invention recrystallization cumulative reduction strain of at least -1.39 recited by one or more the claims. Since applicant has not demonstrated criticality of -1.39 (e.g. by comparative data), then it would seem that a cumulative reduction strain of -1.39 vs. slightly less (-1.2) would depict a mere difference in the proportion of strain without any attendant unexpected results, which would not patentably distinguish over prior art.

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7. Prior art teaches rolling in the non-recrystallization temperature at not below 30% which overlaps with applicant's non-recrystallization reduction strain of at least – 0.65 (48%) and establishes a *prima facie* case of obviousness.

8. Hensger'470 discloses producing microalloyed steel, in general, that would obviously include microalloyed steel compositions as taught by Henger'696, and Hengser'696 steel on lines 56 to 67 in column 3 has a composition that meets the steel composition recited by present invention.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1 to 54 are rejected under 35 U.S.C. 102(b) as being anticipated by the declarations submitted by applicants on April 30, 2004 and February 26, 2007.

11. The Declarations admitted that applicants sold the product made by their process. Applicants refer to the sale as experimental, but they provide no evidence of confidentiality and control. See MPEP 2133.03(e).

***Response to Arguments***

12. Applicants' arguments and declarations filed February 26, 2007 have been fully considered but they are not persuasive.

13. It was submitted that Hensger patents do not teach a substantially homogeneous ferrite microstructure as required by amended claim 1. It is the examiner's position that

Hensger teaches a ferritic-pearlitic steel having an analogous composition and is processed in substantially the same manner as claimed by applicants . Moreover, "a substantially homogeneous ferrite microstructure" as recited by the claims includes phases other than ferrite (such as pearlite) and therefore would include prior art ferritic-pearlitic steel.

14. Applicant stated that claims 4 and 25 as amended recite deformation at the first and second roll stands equivalent to at least -.78 and -.65 in true reduction strain (54% and 48%), respectively. The '470 patent discloses a deformation of 50% at the first roll stand and 30% at the second roll stand. Applicant's declaration stated that reductions must increase over conventional amounts in order to produce improved mechanical properties and grain refinement with homogeneity. It is the examiner's position that since criticality for the claimed reduction strain rates (e.g. by comparative test data) has not been demonstrated, then claims would not patentably distinguish over prior art. Note applicant's original claim and specification disclose a strain rate of 0.60 (less than 48%) as permissible for rolling at both the recrystallization and non-recrystallization temperature ranges. Also the comparative data disclosed in Tables 1 and 2 of applicant's specification is not representative of the prior art, and therefore ineffective to patentably distinguish claims over prior art. Note similar to present invention, prior art uses one or two dummied roll stands to prolong time and ensure complete recrystallizaiton and none of the comparative examples utilize dummied rolls.
15. It was also stated that one or more of the claims recite cumulative deformations in the full recrystallization region of at least approximately -1.39 in true reduction strain

(75%). The '470 patent discloses 50% or -0.69 in true reduction strain at the first roll stand, and 40% or -0.51 in true reductions train, for a cumulative total of -1.2 in true reduction strain or 70% less than applicant's claimed approximate minimum of 75%. It is the examiner's position that since applicant has not demonstrated criticality for the claimed reduction strain of at least -1.39 (e.g. by comparative test data), the a process with -1.39 reduction strain vs. a process with slightly less reduction strain (-1.2) would depict a mere difference in the proportion of strain without any attendant unexpected results which would not patentably distinguish claims over prior art. Moreover, comparative test data in applicant's specification is ineffective for the reasons stated in preceding paragraph.

16. Applicant stated that claims recite interpass times not taught by Hensger patent. In the Hensger patents it is not clear whether or not the interpass time between the second and third roll stand is greater than the time between the first and second roll stands, where complete recrystallization must take place. It is the examiner's position that similar to the present invention, Hensger'470 on lines 5 to 13 in column 3 teaches that it is important that recrystallization is completely concluded before the next deformation is carried out in the region below the recrystallization stop temperature. This can be achieved by providing the next roll stand opened so that sufficient time is available, until the stand after the next stand is reached in which the second deformation is carried out. Hence the prior art interpass time from the exit of the thin slab from last recrystallization roll to non-recrystallization roll can be greater than the interpass time from the exit of the thin slab from 2<sup>nd</sup> to last recrystallization roll to last

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recrystallization depending the the amount of time required for complete recrystallization. In any event, a longer interpass time would be a matter choice and routine optimization well within the skill of the artisan and productive of no new and unexpected results.

17. The applicants' arguments at pp. 17 and 18 of their February 26, 2007 Amendment, as well as the Second Declaration of Christopher A. Tokarz, are duly noted. The applicants argue that they have shown confidentiality and control with Mr. Tokarz statements as to an "oral confidentiality agreement" , a "standard practice in dealings", "a close and longstanding professional relationship", and "expectations and knowledge of what tests would be performed".

18. The applicants' arguments and evidence are not persuasive. The presence or absence of a confidentiality agreement is not dispositive of the on-sale/public use issue, but is one factor to be considered in assessing all the evidence. MPEP2133.03(a)(2) . The evidence as a whole still does not show that the applicants maintained Confidentiality and control. There is no indication as to what the particular oral understandings and standard practices were, or whether and how the same rose to the level of legally binding agreements. There also is no indication of what particular control, if any, the applicants actually maintained over the product. Objective, not subjective, evidence is required. MPEP 2133.03(e)(2).

19. Mr. Tokarz further states that the other parties are "highly unlikely to have found out about its novel and confidential method of manufacture, as this cannot be identified by inspection of the steel." Nevertheless, the sale of a product made by the claimed

process would constitute a sale of the process. MPEP 2133.03(c), III.

***Conclusion***

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

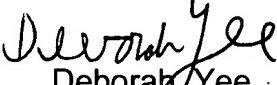
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-27211253. The examiner can normally be reached on monday-friday 6:00am-2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Deborah Yee  
Primary Examiner  
Art Unit 1742

dy